Richard Stodt

FY 1999 - FY 2000

It was determined that the need existed to improve runoff forecasts for the Upper Rio Grande Basin. Many of the tributaries to the Upper Rio Grande are ungaged and therefore streamflow data are incomplete. Two ways to supplement and potentially improve streamflow forecasts for the Upper Rio Grande are to either use Quantitative Precipitation Forecasts (QPFs) from the National Centers for Environmental Prediction (NCEP) Medium Range Forecast (MRF) or eta model runs for input to a runoff model.

The project objectives were to examine mesoscale ensemble forecasts of quantitative precipitation prepared at NCEP to determine the most accurate forecasts and provide this information in a format that watershed runoff models might ingest. Reclamation would participate in the model evaluation and development of practical methods of using probability information from the ensemble forecast. This effort would give information on the reliability of forecasts, which is a primary concern of water operations managers.

In this first year, software to extract and display output from the NCEP numerical models was installed on a workstation at the Technical Service Center. Because of heavy La Niña induced precipitation in the Pacific Northwest, NCEP added nine Reclamation specific locations selected by Leo Busch, of the Bend, Oregon, field office, and Chris Lynch, of the Yakima Area Office, to the eta model time series operational 36-hour forecast output. We have routinely archived twice daily eta grid and time series forecasts (approximately 2 gigabytes of data per month) for later QPF verification. We have also worked to provide eta model forecast parameters in support of the AWARDS research project WR.99.43.

Personnel at NCEP's Environmental Modeling Center, particularly Drs. Ken Mitchell and Zoltan Toth, provided eta model output tailored for Reclamation's needs.

Access to 36-hour eta model time series forecasts, including Reclamation specific locations, has been provided on the River System and Meteorology Group's home page.